Brazil Soybean Transportation

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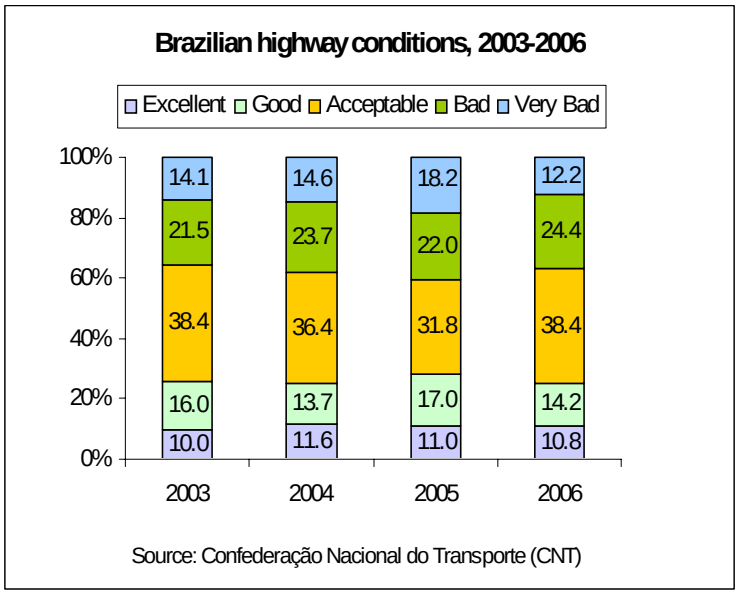
Third Quarter Transport Cost Increase for Brazil Soybeans. Total Brazilian soybean transportation costs were 12–21 percent higher in the 3rd quarter than the same period last year (table below). Ocean costs increased 13 percent due to an increase in fuel costs, increased soybean and corn exports to China, and appreciation of the Real against the U.S. dollar. Truck rates varied across regions, decreasing by 10 percent in some states and increasing as much as 48 percent in other states. An increase in transportation demand for limestone and fertilizers caused the rise in truck rates as the grain planting season began. The cost of shipping a metric ton of soybeans 100 miles by truck increased from $6.62 in June to $7.37 in March (table 3 of the report).



Brazil's Highways in Need of Repair. The 2006 survey of the highway system conducted by the Confederação Nacional do Transporte (CNT), confirms the need to improve Brazilian highways. The deteriorated condition of the highways compromises the performance and safety of the transportation industry. This year, 75 percent of Brazil's 52,317 highway miles assessed in the survey showed some degree of deficiency compared with 72 percent in 2005 (figure above). In 2006, 38.4 percent of the highways were assessed as acceptable, 24.4 as bad, and 12.2 percent as very bad. More than half of the paved roads ranged from acceptable to very bad and 45.6 percent were in good to excellent condition; 70.3 percent of the traffic road signs were deemed to be inadequate; 40.5 percent of the roads did not have shoulders; and 40.7 percent of the roads did not have speed limit signs. Deficiencies in the Brazilian road infrastructure compromise the integration with other transportation modes thereby creating operational restrictions that complicate intermodal growth. The Brazilian transportation system requires an immediate estimated investment of $9.30 billion (R$20 billion) to achieve safety and performance standards. In addition, $470 million (R$1 billion) per year are needed for road maintenance. delmy.salin@usda.gov and ahgameir@esalq.usp.br

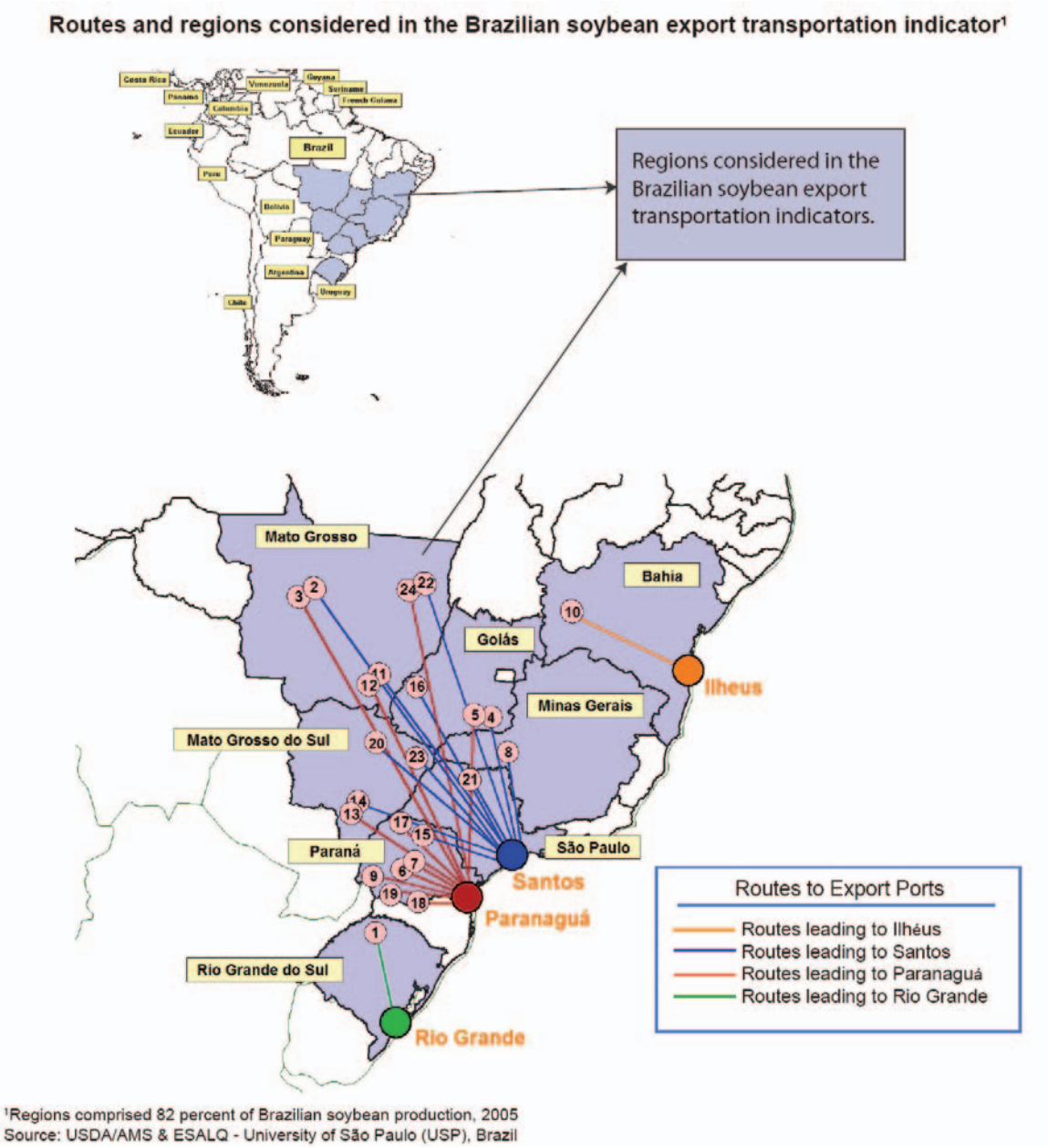
Quarterly costs of transporting Brazilian soybeans to Hamburg, Germany

	2005 3rd qtr.	2006 3rd qtr.	Percent change	2005 3rd qtr.	2006 3rd qtr.	Percent change
	NW RS[1]-RG[2]			N. MT[1] - PAR[2]		
	--$/mt--			--$/mt--		
Truck	12.65	18.72	47.96	80.67	73.03	-9.47
Ocean	43.04	48.74	13.24	43.54	49.24	13.09
Total transportation	55.69	67.46	21.13	124.21	122.27	-1.56
Farm Value[3]	214.23	208.64	-2.61	175.08	162.74	-7.05
Landed Cost	269.92	276.10	2.29	299.29	285.01	-4.77
Transport % of landed cost	20.63	24.43	18.42	41.50	42.90	3.37
	S. GO[1]-Santos[2]			N. Center PR[1]-PAR[2]		
	--$/mt--			--$/mt--		
Truck	41.86	46.54	11.18	22.76	25.23	10.87
Ocean	44.54	50.24	12.80	43.54	49.24	13.09
Total transportation	86.40	96.78	12.01	66.30	74.47	12.33
Farm Value[3]	188.26	187.04	-0.65	222.81	211.15	-5.23
Landed Cost	274.66	283.82	3.33	289.11	285.63	-1.21
Transport % of landed cost	31.46	34.10	8.40	22.93	26.07	13.70

[1]Producing regions: RS = Rio Grande do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná
[2]Export ports: RG = Rio Grande, PAR = Paranaguá; [3]Source: Companhia Nacional de Abastecimento
Source: ESALQ/ USP, Brazil and USDA/AMS

Brazil Soybean Transportation Indicators

Figure 1



¹Regions comprised 82 percent of Brazilian soybean production, 2005
Source: USDA/AMS & ESALQ - University of São Paulo (USP), Brazil

Table 1--Quarterly costs of transporting Brazilian soybeans to Shanghai, China and Hamburg, Germany

	2006					2006				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Average	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Average
	Shanghai, China									
	North MT[1] - Santos[2]					**North MT[1] - Paranagua[2]**				
	--$/mt--					**--$/mt--**				
Truck	86.22	79.20	76.55			84.65	81.63	73.03		
Ocean	50.13	44.80	60.98			49.13	43.80	59.98		
Total transportation	136.36	124.00	137.54			133.78	125.43	133.02		
Farm Value[3]	157.86	150.72	161.30			157.86	150.72	161.30		
Landed Cost	294.22	274.71	298.84			291.65	276.15	294.32		
Transport % of landed cost	46.35	45.14	46.02			45.87	45.42	45.19		
	Southeast MT[1] - Santos[2]					**North Center PR[1] - Paranagua[2]**				
	--$/mt--					**--$/mt--**				
Truck	65.24	58.78	53.56			19.41	20.43	25.23		
Ocean	50.13	44.80	60.98			49.13	43.80	59.98		
Total transportation	115.37	103.58	114.54			68.54	64.23	85.22		
Farm Value[3]	157.86	150.72	161.30			206.88	194.83	211.06		
Landed Cost	273.24	254.30	275.85			275.42	259.05	296.27		
Transport % of landed cost	42.22	40.73	41.52			24.89	24.79	28.76		
	South GO[1] - Santos[2]					**Northwest RS[1] - Rio Grande[2]**				
	--$/mt--					**--$/mt--**				
Truck	42.49	41.40	46.54			13.54	11.74	18.72		
Ocean	50.13	44.80	60.98			48.63	43.30	59.48		
Total transportation	92.62	86.20	107.52			62.17	55.04	78.20		
Farm Value[3]	180.71	175.49	185.73			202.56	198.03	207.37		
Landed Cost	273.33	261.69	293.25			264.73	253.06	285.57		
Transport % of landed cost	33.89	32.94	36.67			23.49	21.75	27.38		
	Hamburg, Germany									
	North MT[1] - Santos[2]					**North MT[1] - Paranagua[2]**				
	--$/mt--					**--$/mt--**				
Truck	86.22	79.20	76.55			84.65	81.63	73.03		
Ocean	39.51	36.91	50.24			38.51	35.91	49.24		
Total transportation	125.73	116.11	126.79			123.16	117.54	122.27		
Farm Value[3]	157.86	150.72	161.30			157.86	150.72	161.30		
Landed Cost	283.60	266.82	288.09			281.02	268.26	283.57		
Transport % of landed cost	44.34	43.51	44.01			43.83	43.82	43.12		
	Southeast MT[1] - Santos[2]					**North Center PR[1] - Paranagua[2]**				
	--$/mt--					**--$/mt--**				
Truck	65.24	58.78	53.56			19.41	20.43	25.23		
Ocean	39.51	36.91	50.24			38.51	35.91	49.24		
Total transportation	104.75	95.69	103.80			57.92	56.34	74.47		
Farm Value[3]	157.86	150.72	161.30			206.88	194.83	211.06		
Landed Cost	262.61	246.41	265.10			264.79	251.16	285.53		
Transport % of landed cost	39.89	38.83	39.15			21.87	22.43	26.08		
	South GO[1] - Santos[2]					**Northwest RS[1] - Rio Grande[2]**				
	--$/mt--					**--$/mt--**				
Truck	42.49	41.40	46.54			13.54	11.74	18.72		
Ocean	39.51	36.91	50.24			37.06	35.41	48.74		
Total transportation	82.00	78.31	96.78			50.60	47.15	67.46		
Farm Value[3]	180.71	175.49	185.73			202.56	198.03	207.37		
Landed Cost	262.71	253.80	282.51			253.16	245.17	274.82		
Transport % of landed cost	31.21	30.85	34.26			19.99	19.23	24.55		

[1]Producing regions: RS = Rio Grande Do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná

[2]Export ports

[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Table 2

Truck rates for selected Brazilian soybean export transportation routes, 3rd quarter 2006

Route #	Origin[1] (reference city)	Destination	Distance (miles)[2]	Share (%)[3]	Freight price (per 100 miles)[4]
1	Northwest RS[5](Cruz Alta)	Rio Grande	288	3.35	6.50
2	North MT(Sorriso)	Santos	1190	14.90	6.43
3	North MT(Sorriso)	Paranaguá	1262	14.05	5.79
4	South GO(Rio Verde)	Santos	587	7.45	7.93
5	South GO(Rio Verde)	Paranaguá	726	6.02	6.26
6	North Center PR(Londrina)	Paranaguá	268	3.83	9.42
7	Western Center PR(Mamborê)	Paranaguá	311	3.48	7.77
8	Triangle MG(Uberaba)	Santos	339	4.56	10.31
9	West PR(Assis Chateaubriand)	Paranaguá	377	3.49	7.38
10	West Extreme BA(São Desidério)	Ilhéus	544	5.71	9.08
11	Southeast MT(Primavera do Leste)	Santos	901	4.09	5.94
12	Southeast MT(Primavera do Leste)	Paranaguá	975	3.78	5.53
13	Southwest MS(Maracaju)	Paranaguá	612	2.81	8.68
14	Southwest MS(Maracaju)	Santos	652	2.64	7.41
15	West PR(Assis Chateaubriand)	Santos	550	2.39	7.83
16	East GO(Cristalina)	Santos	585	2.17	6.86
17	North PR(Cornélio Procópio)	Paranaguá	306	1.68	7.10
18	Eastern Center PR(Castro)	Paranaguá	130	2.46	9.81
19	South Center PR(Guarapuava)	Paranaguá	204	1.92	10.76
20	North Center MS(São Gabriel do Oeste)	Santos	720	2.00	6.13
21	Ribeirão Preto SP(Guairá)	Santos	314	1.45	8.67
22	Northeast MT(Canarana)	Santos	950	2.29	7.74
23	East MS(Chapadão do Sul)	Santos	607	1.42	6.84
24	Northeast MT(Canarana)	Paranaguá	1075	2.03	6.92
	Average		**749**	**100**	**7.29**

[1]Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price

[2]Distance from the main city of the considered region to the mentioned ports

[3]The share is measured as a percentage of total production

[4]US$ per metric ton (average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollar)

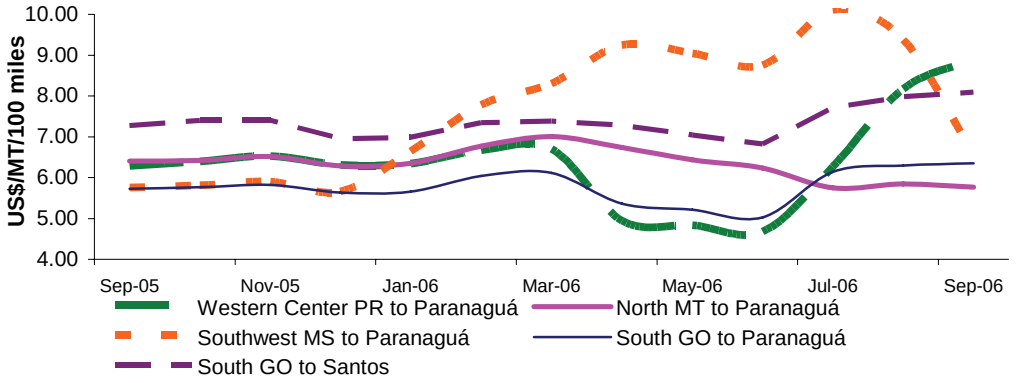
[5]RS = Rio Grande do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná, MG = Minas Gerais, BA = Bahia, MS = Mato Grosso do Sul, SP = São Paulo

(routes 16, 17 and 23 have been modified effective 2nd quarter 2006 to reflect changes in market conditions)

Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

Figure 2

Truck rates for selected Brazilian soybean export transportation routes



Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Table 3

Monthly Brazilian soybean export truck transportation cost index

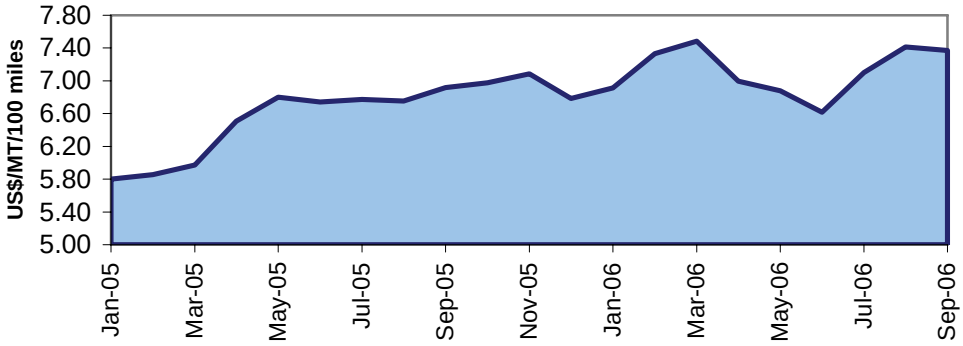
Month	Freight price* (per 100 miles)	Index variation (%) (Base: prior month)	Index value (Base: Jan. 05 = 100)
Jan. 05	5.80		100.00
Feb. 05	5.85	0.9	100.90
Mar. 05	5.97	2.0	102.92
Apr. 05	6.51	9.0	112.14
May 05	6.80	4.5	117.22
Jun. 05	6.74	-0.9	116.22
Jul. 05	6.77	0.5	116.76
Aug. 05	6.75	-0.3	116.41
Sep. 05	6.92	2.5	119.27
Oct. 05	6.98	0.9	120.28
Nov. 05	7.09	1.6	122.15
Dec. 05	6.78	-4.3	116.95
Jan. 06	6.91	1.9	119.18
Feb. 06	7.33	6.0	126.36
Mar. 06	7.48	2.1	129.02
Apr. 06	6.99	-6.6	120.57
May 06	6.88	-1.7	118.56
Jun. 06	6.62	-3.8	114.05
Jul. 06	7.10	7.3	122.41
Aug. 06	7.41	4.4	127.79
Sep. 06	7.37	-0.6	127.02

*Weighted average and quoted in US$ per metric ton

Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

Figure 3

Brazilian soybean export truck transportation weighted average prices, 2005/06



Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

Table 4

Quarterly ocean freight rates for shipping soybeans from selected Brazilian ports to Hamburg, Germany and Shanghai, China (US$/metric ton)*

Ports	**Hamburg**				**Shanghai**			
	2006 1st qtr	**2006 2nd qtr**	**2006 3rd qtr**	**2006 4th qtr**	**2006 1st qtr**	**2006 2nd qtr**	**2006 3rd qtr**	**2006 4th qtr**
Santos	39.51	36.91	50.24		50.13	44.80	60.98	
Paranagua	38.51	35.91	49.24		49.13	43.80	59.98	
Rio Grande	37.06	35.41	48.74		48.63	43.30	59.48	

Source: Sistema de Informações de Fretes, SIFRECA, ESALQ/USP (University of São Paulo, Brazil)

*Correspond to the average actual values negotiated between shippers and carriers and weighted according to the magnitude of the shipped volumes

Specialists

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